

Docket No. AUS920000844US1

**CLAIMS:**

What is claimed is:

- 5 1. A method for managing resources of a physical processor, comprising:
- determining whether a first logical processor on the first physical processor is idle;
- determining whether a second logical processor on
- 10 the first physical processor is busy if the first logical processor is idle; and
- relinquishing resources of the first physical processor to the second logical processor if the second logical processor is busy.
- 15 2. The method of claim 1, wherein the step of determining whether the first logical processor is idle comprises:
- determining whether the first logical processor is
- 20 running a current job; and
- determining whether a first run queue corresponding to the first logical processor is empty if the first logical processor is not running a current job, wherein the first logical processor is idle if the first run
- 25 queue is empty.
3. The method of claim 2, further comprising:
- running a job from the first run queue on the first logical processor if the first run queue is not empty.
- 30 4. The method of claim 2, wherein the first logical processor is not idle if the first logical processor is running a current job.

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5. The method of claim 1, further comprising:

determining whether a job is available in a second  
run queue corresponding to a third logical processor on a  
second physical processor if the second logical processor  
5 on the physical processor is not busy.

6. The method of claim 5, further comprising:

running a job from the second run queue on the first  
logical processor if a job is available in the second run  
10 queue.

7. The method of claim 1, wherein the second logical  
processor consumes resources of the first physical  
processor if the first logical processor has a lowered  
15 priority.

8. The method of claim 1, wherein the step of  
relinquishing the physical processor resources comprises:

lowering the priority of the first logical  
20 processor.

9. The method of claim 8, wherein the step of lowering  
the priority of the first logical processor comprises  
lowering the priority of the first logical processor for  
25 a predetermined time period.

10. The method of claim 9, further comprising raising  
the priority of the first logical processor after the  
predetermined period of time.

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11. The method of claim 10, further comprising dispatching a job to the first logical processor in response to the raised priority.

5 12. An apparatus for controlling the active number of run queues on a first physical processor, comprising:  
first determination means for determining whether a first logical processor on the first physical processor is idle;

10 first determination means for determining whether a second logical processor on the first physical processor is busy if the first logical processor is idle; and  
relinquishing means for relinquishing resources of the first physical processor to the second logical  
15 processor if the second logical processor is busy.

13. The apparatus of claim 12, wherein the first determination means comprises:

means for determining whether the first logical  
20 processor is running a current job; and  
means for determining whether a first run queue corresponding to the first logical processor is empty if the first logical processor is not running a current job, wherein the first logical processor is idle if the first  
25 run queue is empty.

14. The apparatus of claim 13, further comprising:

means for running a job from the first run queue on the first logical processor if the first run queue is not  
30 empty.

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15. The apparatus of claim 13, wherein the first logical processor is not idle if the first logical processor is running a current job.

- 5 16. The apparatus of claim 12, further comprising:  
means for determining whether a job is available in  
a second run queue corresponding to a third logical  
processor on a second physical processor if the second  
logical processor on the physical processor is not busy.

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17. The apparatus of claim 16, further comprising:  
means for running a job from the second run queue on  
the first logical processor if a job is available in the  
second run queue.

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18. The apparatus of claim 12, wherein the second  
logical processor consumes the resources of the first  
physical processor if the first logical processor has a  
lowered priority.

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19. The apparatus of claim 12 wherein the relinquishing  
means comprises:

priority means for lowering the priority of the  
first logical processor.

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20. The apparatus of claim 19, wherein the priority  
means comprises means for lowering the priority of the  
first logical processor for a predetermined time period.

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21. The apparatus of claim 20, further comprising means for raising the priority of the first logical processor after the predetermined period of time.

23. A computer program product, in a computer readable  
10 medium, for controlling the active number of run queues  
on a first physical processor, comprising:
- instructions for determining whether a first logical  
processor on the first physical processor is idle;
  - instructions for determining whether a second  
15 logical processor on the first physical processor is busy  
if the first logical processor is idle; and
  - instructions for lowering the priority of the first  
logical processor if the second logical processor is  
busy.